



**STATEMENT OF BASIS  
FOR  
DRAFT  
AIR OPERATING PERMIT  
&  
PHASE II ACID RAIN PERMIT  
No. 05 AQ-C025  
FOR  
GOLDENDALE ENERGY CENTER  
Klickitat County, Washington**

**PREPARED BY:  
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**JANUARY 4, 2006**

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## 1.0 LIST OF ABBREVIATIONS

CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
GEC	Goldendale Energy Center
kW	kilowatt
HRSG	heat recovery steam generator
MW	megawatt
NOC	Notice of Construction
NO <sub>x</sub>	oxides of nitrogen
NSPS	new source performance standard
O <sub>2</sub>	oxygen
PM <sub>10</sub>	particulate matter with an aerodynamic diameter of 10 micrometers or less
SCR	selective catalytic reduction
SO <sub>2</sub>	sulfur dioxide
VOC	volatile organic compound
WAC	Washington Administrative Code

**2.0 GENERAL INFORMATION**

Company Name: Goldendale Energy Center, LLC

Source/Plant Name: Goldendale Energy Center

Parent Company: Calpine Corporation

Unified Business Identification Number: 602-334-510

Standard Industrial Classification Code: 4911

ORIS Code: 55482

Source Location: 600 Industrial Way  
Goldendale, Washington 98620  
Klickitat County, Washington  
SE ¼ of SW ¼ & SW ¼ of SE ¼ Section 20, T. 4 N., R. 16 E., W.M.

Mailing Address: PO Box 190  
Goldendale, WA 98620

Responsible Official/  
Designated Representative: Rich Downen  
Plant Manager  
PO Box 190  
600 Industrial Way  
Goldendale, WA 98620  
Phone: 509-773-1200  
Fax: 509-773-1224  
Email: Rdownen@calpine.com

Alternate Responsible Official/  
Designated Representative: Wayne Milke  
Compliance Manager  
PO Box 190  
600 Industrial Way  
Goldendale, WA 98620  
Phone: 509-773-1209  
Fax: 509-773-1224  
Email: Wmilke@calpine.com

**Basis for Title V Operating Permit Applicability:**

This is an "affected source" regulated under Title IV of the Federal Clean Air Act.

**Basis for Title IV Acid Rain Program Applicability:**

This unit is a new utility unit, per 40 CFR 72.6(a)(3).

**Attainment Classification:**

This affected source is located in an area that is unclassified for all criteria pollutants.

**Timeline**

See also sections 6.0 and 7.0 (below).

July 7, 2005 – Ecology received initial complete Title V Operating Permit application and renewal Title IV Phase II Permit application

### 3.0 INTRODUCTION

This document sets forth the legal and factual basis for the permit conditions in a Title V Air Operating Permit and a Title IV Phase II Acid Rain Permit issued by the State of Washington Department of Ecology for the Goldendale Energy Center (GEC) located in Goldendale, Washington. This document, called a “statement of basis,” does not contain enforceable permit conditions, only supplemental description and explanation. Enforceable permit conditions are contained in the combined Title V Air Operating Permit and a Title IV Phase II Acid Rain Permit itself.

### 4.0 SOURCE DESCRIPTION

The Goldendale Energy Center is a combined cycle natural gas-fired electrical generating facility. It consists of a combustion gas turbine-driven generator and a steam turbine driven generator. The GE Frame 7FA combustion turbine and supplemental duct burners burn only natural gas; no backup fuel is allowed. The exhaust heat from the combustion turbine flows to a heat recovery steam generator (HRSG) to produce steam. Steam is directed to the steam turbine, which turns a steam turbine generator. Steam exhausted by the steam turbine generator flows to a cooling tower and/or air-cooled condenser, is condensed, and returned to the HRSG. The HRSG is equipped with a 323 million Btu/hr (LHV) duct burner that produces up to 40 MW. Since performance of the combustion turbine declines as ambient air temperature increases, the maximum duct burner contribution of 40 MW will occur when the ambient site temperature reaches its maximum (about 110 °F.) The GEC has a maximum annual average generating capacity in the range of 247,800 kilowatts (kW) to 248,700 kW. This generating capacity is measured as the maximum continuous electric generating capacity less minimum auxiliary load.

Selective catalytic reduction (SCR) is installed at the appropriate section of the HRSG to minimize NO<sub>x</sub> emissions from the combustion turbine. An aqueous ammonia tank supplies the HRSG unit with ammonia for use with the SCR. An oxidation catalyst is also installed in the HRSG to oxidize carbon monoxide (CO) and, to a lesser extent, volatile organic compounds (VOCs), to carbon dioxide (CO<sub>2</sub>).

Additional emission units include a 300 horsepower (hp) diesel engine, to start automatically should a demand for water for fire suppression occur simultaneously with a loss of electric power and a 536 hp (400 kW) diesel backup generator, to supply critical AC loads during emergency situations. Particulate matter emissions are also anticipated from two cooling towers. A site map and a source flow diagram of the source are included herein, as Figures 1 and 2, respectively. Additionally, the source’s potential air emissions are listed in Table 1.

Within the permit, the applicable requirements are broken down into tables, each containing a specific process, including:

Process #1, Source-wide: Addresses source-wide emission sources, including all significant and insignificant emission units and fugitive emissions. Permit Table 5.1, includes applicable requirements that apply source-wide, including the units specifically addressed in processes 2 through 6.

Process #2, Combustion turbine

Process #3, Duct burner

Process #4, Combined cycle unit: Addresses the requirements that apply to the collective combined cycle unit, made up of the gas combustion turbine, heat recovery steam generator, duct burner, selective catalytic reduction unit, and the steam turbine, which all share a single exhaust stack. The combined cycle unit has two sets of emissions units. Applicable requirements that apply at all times, during operation at base load (i.e., duct burner NOT in use), and during operation at peak load (i.e., duct burner in use), are specified in Permit Tables 5.4, 5.4a, and 5.4b, respectively.

Process #5, Backup generator

Process #6, Firewater pump

Insignificant emission units are listed in section 11.0.

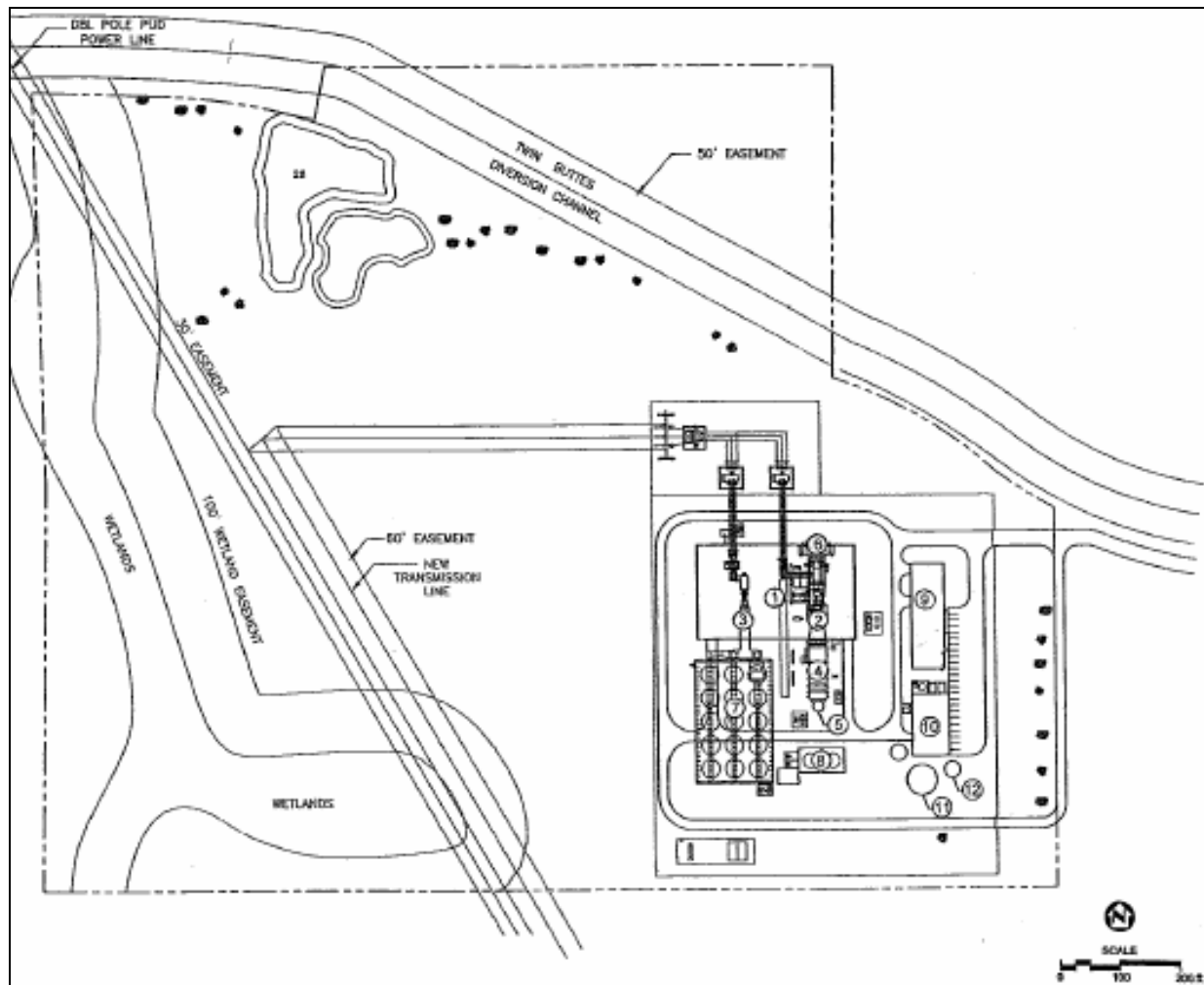


Figure 1. Site map of Goldendale Energy Center, Structures include: (1) turbine/generator building (2) gas combustion turbine (3) steam turbine (4) HRSG (5) exhaust stack (6) air inlet filter (7) air cool condensers (8) cooling tower (9) administration/maintenance building (10) pump house/water treatment building (11) service/fire water tank (12) demin water storage tank (adapted from AOP application received 5/26/05 from Geomatrix Consultants).

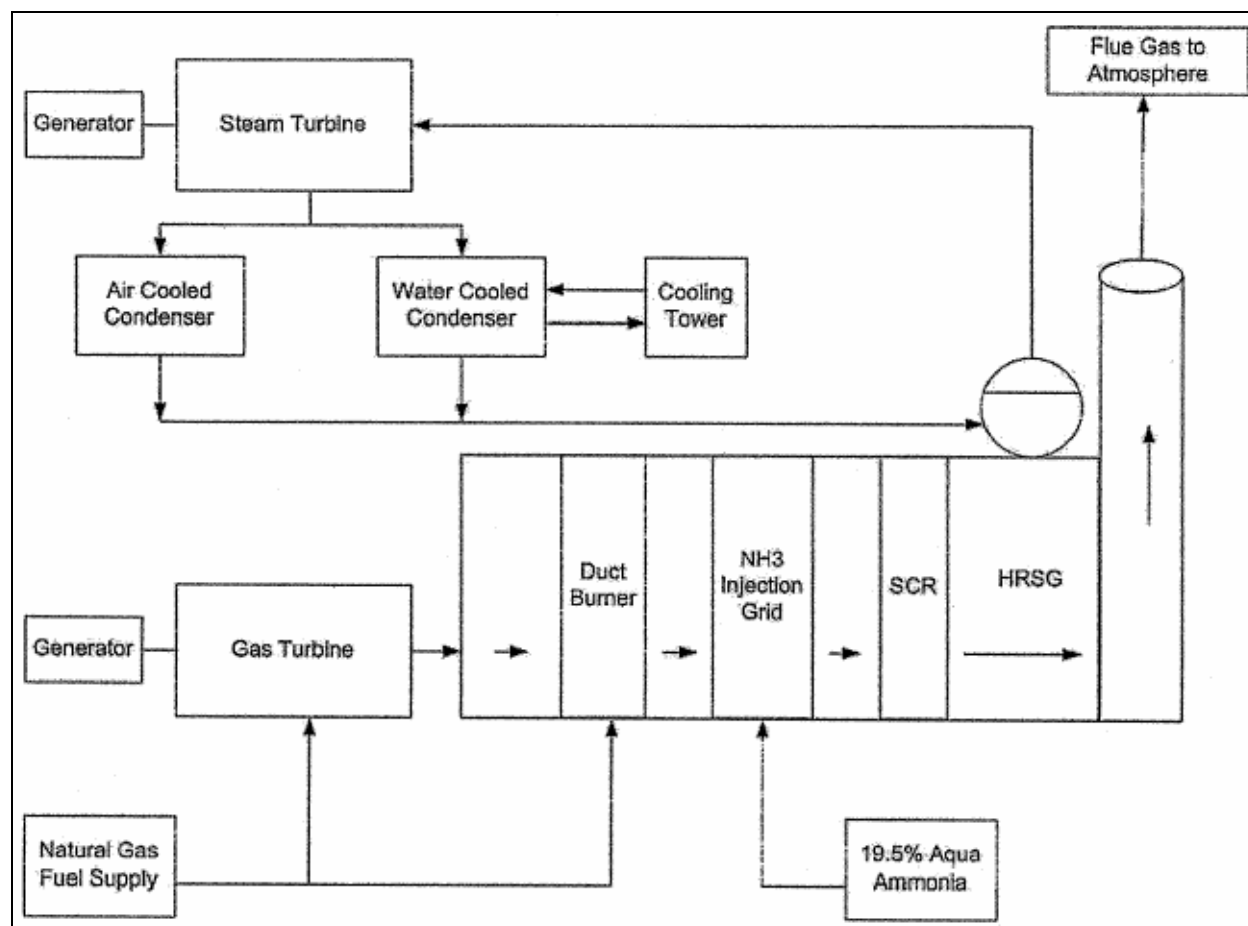


Figure 2. Goldendale Energy Center source flow diagram (adapted from AOP application received 5/26/05 from Geomatrix Consultants).

Table 1. Summary of potential emissions (tons per year) from Goldendale Energy Center.

Pollutant	Combined Cycle Unit	Firewater Pump	Backup Generator	Cooling Tanks	TOTAL
<b>TSP</b>	91.9	0.2	0.3	6.5	<b>98.9</b>
<b>PM<sub>10</sub></b>	91.9	0.2	0.3	6.5	<b>98.9</b>
<b>PM<sub>2.5</sub></b>	91.9	0.2	0.3	6.5	<b>98.9</b>
<b>SO<sub>2</sub></b>	25.5	0.2	0.3		<b>30</b>
<b>CO</b>	82.27	0.5	0.9		<b>83.7</b>
<b>NO<sub>x</sub></b>	70.2	2.3	4.2		<b>76.7</b>
<b>VOC</b>	41.54	0.2	0.4		<b>42.2</b>
<b>Acetaldehyde</b>	1.545	0.000403	0.000725		<b>1.55</b>
<b>Ammonia</b>	34.51				<b>34.51</b>
<b>Benzene</b>	0.1594	0.00049	0.000875		<b>0.1608</b>
<b>Formaldehyde</b>	1.977	0.00062	0.0011		<b>1.978</b>
<b>PAH</b>	0.006657	0.0000875	0.00015		<b>0.007</b>
<b>Propylene Oxide</b>	481.8				<b>0.2409</b>
<b>Sulfuric Acid Mist</b>	6.2				<b>6.2</b>

## 5.0 NEW SOURCE REVIEW HISTORY

In Washington State, new sources of air pollutants are potentially subject to four types of new source review (air quality permitting). Federal new source review includes Prevention of Significant Deterioration (Title 40 Code of Federal Regulations Part 52.21) and Nonattainment New Source Review (Title 40 Code of Federal Regulations Part 52.24). These Federal programs apply to large sources with potential emissions equal or greater than specified thresholds. Additionally, State new source review, referred to as Notice of Construction permitting, applies to smaller sources, and the lesser emissions at the larger sources. Notice of Construction permitting may be required for criteria pollutants (WAC 173-400-110) and/or toxic air pollutants (WAC 173-460-030).

Installation and operation of the Goldendale Energy Center was originally approved under Notice of Construction Order No. 01AQCR-2037, issued December 18, 2000. Following issuance of this Order, it came to general attention that the sulfur content of the natural gas, used in much of Washington State including that used by Goldendale Energy Center, is greater than had been previously recognized. To remedy this situation, and minimize the potential for underestimating emissions, the permittee requested, and Ecology granted, a revision to reflect higher potential sulfur emissions. Notice of Construction Order No. 01AQCR-2037 First Revision, was issued on August 22, 2003. On March 22, 2004, Ecology received a request to revise conditions pertaining to generating capacity, monitoring of nitrogen content of the fuel, flow monitoring, addition of a shutdown exemption, operating load restrictions, and number of allowed startups. Ecology granted requested revisions. No change in potential emissions was authorized in Notice of Construction Order No. 01AQCR-2037 Second Revision, issued on January 13, 2005.

## 6.0 AIR OPERATING PERMIT HISTORY

Title V of the 1990 Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial source of air pollution. Congress structured the air operating permit system as an administrative tool for applying existing regulations to individual sources. The goal is to enhance accountability and compliance by clarifying in a single document which requirements apply to a given business or industry.

The Washington State Clean Air Act (Chapter 70.94 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and local air agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources emitting one hundred tons or more per year of a criteria pollutant, or ten tons of a hazardous air pollutant, or twenty-five tons in the cumulative of hazardous air pollutants, to obtain an operating permit. Criteria pollutants include sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and volatile organic compounds.

Ecology authored Chapter 173-401 of the Washington Administrative Code (WAC), which specified the requirements of Washington State's Operating Permit Regulation. This regulation became effective on November 4, 1993. On November 1, 1993, this regulation was submitted to the United States Environmental Protection Agency (EPA), for program approval. On December 9, 1994, EPA granted interim approval of Chapter 173-401 WAC. This interim approval was extended until EPA granted final approval on August 13, 2001. The current version of this regulation was filed on September 16, 2002.

Goldendale Energy Center became a chapter 173-401 Operating Permit source upon commencement of operation on July 10, 2004. Their complete initial application was due on July 9, 2005. An incomplete application was received by Ecology on May 26, 2005. Additional information was received on July 6, 2005, and Ecology deemed the application complete on July 8, 2005. As a complete and timely permit application was received, Goldendale Energy Center has retained their permission to operate while the permit is being processed.

See also "Timeline" in section 2.0.

## 7.0 ACID RAIN PROGRAM HISTORY

The overall goal of the Acid Rain Program is to achieve significant environmental and public health benefits through reductions in emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), the primary causes of acid rain. To achieve this goal at the lowest cost to society, the program employs both traditional and innovative, market-based



approaches for controlling air pollution. In addition, the program encourages energy efficiency and pollution prevention.

Specifically, Title IV of the 1990 Federal Clean Air Act Amendments set a goal of reducing annual SO<sub>2</sub> emissions by 10 million tons below 1980 levels. To achieve these reductions, the law required a two-phase tightening of the restrictions placed on fossil fuel-fired power plants.

Phase I began in 1995 and affected mostly coal-burning electric utility plants. Phase II, which began in the year 2000, tightened the annual emissions limits imposed on the large, higher emitting Phase I plants and also set restrictions on smaller, cleaner plants fired by coal, oil, and gas. The program affects existing utility units serving generators with an output capacity of greater than 25 megawatts and all new utility units.

The GEC is an “affected source,” subject to Phase II of the acid rain program, due to the presence of the natural gas fired combustion engine. The natural gas fired combustion engine and the auxiliary duct burner are one affected unit. The affected unit commenced operation on July 10, 2004. The affected unit commenced commercial operation on August 9, 2004. Initial monitor certification occurred during August 28 through 30, 2004. (The deadline for monitor certification was November 8, 2004.)

The Acid Rain Program introduces an allowance trading system that harnesses the incentives of the free market to reduce pollution. EPA holds an allowance auction annually. The auctions help to send the market an allowance price signal, as well as furnish utilities with an avenue for purchasing needed allowances. Acid rain permits require that each unit account hold a sufficient number of allowances to cover the unit's SO<sub>2</sub> emissions in each year, comply with the applicable NO<sub>x</sub> limit, and monitor and report emissions. GEC has the potential-to-emit thirty (30) tons per year of SO<sub>2</sub> emissions; the source will be required to hold a maximum of thirty (30) SO<sub>2</sub> allowances.

Under the Acid Rain Program, each unit must continuously measure and record its emissions of SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub>, as well as volumetric flow and opacity. In most cases, a continuous emission monitoring (CEM) system must be used. There are provisions for initial equipment certification procedures, periodic quality assurance and quality control procedures, recordkeeping and reporting, and procedures for filling in missing data periods. Units report hourly emissions data to EPA on a quarterly basis. This data is then recorded in the Emissions Tracking System, which serves as a repository of emissions data for the utility industry. The emissions monitoring and reporting systems are critical to the program. They instill confidence in allowance transactions by certifying the existence and quantity of the commodity being traded and assure that NO<sub>x</sub> averaging plans are working. Monitoring also ensures, through accurate accounting, that the SO<sub>2</sub> and NO<sub>x</sub> emissions reduction goals are met.

Since GEC is not coal-fired, there are no applicable acid rain NO<sub>x</sub> emission limits; a Phase II NO<sub>x</sub> permit application and ozone monitoring are not required. GEC utilizes CEMS for NO<sub>x</sub>, and O<sub>2</sub>, to comply with the acid rain program. Instead of using a SO<sub>2</sub> CEMS, GEC provides other information satisfactory to EPA using the applicable procedures specified in 40 CFR Part 75 appendix D, for estimating hourly SO<sub>2</sub> mass emissions. GEC's CO<sub>2</sub> mass emissions are determined using an O<sub>2</sub> monitor according to 40 CFR Part 75 appendix F.

Opacity monitoring is not required at GEC and SO<sub>2</sub> monitoring will be met according to 40 CFR Part 75 appendix D, so moisture measurement is not required. Additionally, because NO<sub>x</sub> mass emission rates will be obtained according to 40 CFR Part 75 appendix F, volume flow rate measurement is not required, under the Acid Rain Program.

Each source appoints one individual, the Designated Representative, to represent the owners and operators of the source in all matters relating to the holding and disposal of allowances for its units that are affected by the Clean Air Act. The Designated Representative is also responsible for all submissions pertaining to permits, compliance plans, emission monitoring reports, offset plans, compliance certification, and other necessary information. A source may appoint an Alternate Designated Representative to act on behalf of the Designated Representative.


Ecology received GEC's initial complete Title IV Phase II Permit Application and Certificate of Representation on February 28, 2001, and issued their initial Phase II Acid Rain Permit No. 02AQCR-4524, on July 15, 2002. The Permit underwent administrative amendments, updating designated representatives, company name, or the new unit commence operation date, on June 11, 2003, November 25, 2003, September 2, 2004, and November 19, 2004.



Additional information on the Title IV permitting, monitoring, or reporting can be located on EPA's Clean Air Market's Division webpage (<http://www.epa.gov/airmarkets/forms/index.html#arp>).

Figure 3, displays GEC's renewal *Acid Rain Permit Application*. Figure 4, displays GEC's most recent *Certificate of Representation*.

See also "Timeline" in section 2.0.



United States  
Environmental Protection Agency  
Acid Rain Program

OMB No. 2060-0252

**Certificate of Representation**

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised (revised submissions must be complete; see instructions)

legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract

The agreement by which I was selected as the alternate designated representative, if applicable, includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative

Page 1

Goldendale Energy Center LLC  
Plant Name (from Step 1)

Certificate - Page 2  
Page ☐ of ☐

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information, including the possibility of fine or imprisonment.

Signature (designated representative) *[Signature]* Date *10/19/05*

Signature (alternate designated representative) *[Signature]* Date *10/19/05*

**STEP 5**  
Provide the name of every owner and operator of the source and identify each affected unit they own and/or operate.

Name	Owner	Operator
Calpine Corporation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ID# CT-1	ID#	ID#
ID#	ID#	ID#

Name	Owner	Operator
	<input type="checkbox"/>	<input type="checkbox"/>
ID#	ID#	ID#
ID#	ID#	ID#

Name	Owner	Operator
	<input type="checkbox"/>	<input type="checkbox"/>
ID#	ID#	ID#
ID#	ID#	ID#

ID#	Projected Commence Commercial Operation Date: Actual - July 10, 2004
ID# CT-1	Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:

**STEP 1**  
Identify the source by plant name, State, and NSR code

Plant Name Goldendale Energy Center, LLC State WA ORIS Code 55482

**STEP 2**  
Enter requested information for the designated representative.

Name Rich Downen  
Address Goldendale Energy Center  
P.O. Box 190  
600 Industrial Way  
Goldendale, WA 98620

Phone Number 509-773-1200 Fax Number 509-773-1224

E-mail address (if available) Rdownen@calpine.com

**STEP 3**  
Enter requested information for the alternate designated representative, if applicable

Name Wayne Mike  
Phone Number 509-773-1209 Fax Number 509-773-1224

E-mail address (if available) Wmike@calpine.com

**STEP 4: Complete Steps 5 and 6, read the certifications, sign and date.**

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source

I certify that I have given notice of the agreement selecting me as the "designated representative" for the affected source and each affected unit at the source identified in this certificate of representation, in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's

EPA Form 7610-1 (rev. 2-04; previous versions obsolete)

Figure 4. GEC's most recent *Certificate of Representation*, received 10/27/05.

## 8.0 NEW SOURCE PERFORMANCE STANDARDS

GEC is subject to Title 40 Code of Federal Regulations (CFR) Part 60, Subpart Da, *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978*, and; Title 40 CFR Part 60, Subpart GG, *Standards of Performance for Stationary Gas Turbines*.

8.1 Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. [Title 40 Code of Federal Regulations (CFR) Part 60, Subpart Da] The boiler NSPS establishes standards for particulate matter, SO<sub>2</sub>, and NO<sub>x</sub> for units combusting gaseous fuels which are capable of combusting more than 73 megawatts (250 million Btu/hr) heat input for which construction commenced after September 18, 1978. Since the duct burner has a firing capacity of 323 million Btu/hr (LHV) and is not covered by Subpart GG, it is subject to this standard.

8.2 Standards of Performance for Stationary Gas Turbines. [Title 40 CFR Part 60, Subpart GG] The gas turbine NSPS establishes NO<sub>x</sub> and SO<sub>2</sub> emission standards for all new stationary gas turbines with a heat input at peak load greater than 10.7 gigajoules per hour based on the lower heating value of the fuel fired. The rated heat input of the combustion turbine at peak load including duct burner firing is approximately 2,012 gigajoules per hour,



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, Washington 98101



Reply To  
Attn Of: OAAQ-107

June 16, 2004

Steve Royall  
Plant Manager  
Goldendale Energy Center  
P.O. Box 190  
Goldendale, Washington 98620

Re: NSPS Subpart GG Alternative Monitoring and Testing Approval

Dear Mr. Royale:

The purpose of this letter is to respond to your May 25, 2004, request that the United States Environmental Protection Agency (EPA) approve alternative monitoring and testing methods for a combustion turbine recently installed at Goldendale Energy Center in Goldendale, Washington. The turbine is subject to the requirements of NSPS Subpart GG - Standards of Performance for Stationary Gas Turbines. As described below, EPA approves your request.

Request 1: Waiver from Nitrogen Monitoring - Pipeline Quality Natural Gas

Under the provisions for 40 C.F.R. Section 60.334(b)(2), owners and operators of combustion turbines who do not have intermediate bulk storage for the fuel fired in their turbines are required to conduct daily monitoring to determine the sulfur and nitrogen content of the fuel combusted. Under the terms of the August 14, 1987 custom fuel monitoring policy issued by EPA Headquarters, the nitrogen monitoring requirement for pipeline quality natural gas-fired turbines can be waived because this fuel does not contain fuel-bound nitrogen and any free nitrogen that it may contain does not contribute appreciably to the formation of nitrogen oxides (NO<sub>x</sub>) emissions. Based upon the precedent set in the August 1987 custom fuel monitoring policy, the requirement to monitor the nitrogen content of pipeline quality natural gas is waived.

Request 2: Custom Fuel (Sulfur) Monitoring Schedule - Pipeline Quality Natural Gas

EPA's August 1987 custom fuel monitoring policy also provides details regarding a procedure that owners and operators of natural gas-fired turbines can follow in order to obtain approval to reduce their sulfur analysis frequency from a daily to a semiannual basis. Under this policy, owners and operators of affected facilities can obtain approval for a semiannual monitoring frequency by collecting and analyzing samples under the following schedule:

1. Samples must initially be collected and analyzed twice a month for six months. If six months of bi-monthly sampling and analysis indicate that sulfur concentrations are well below the applicable standard with low variability, the sampling frequency can be reduced to a quarterly basis.
2. If six quarters of quarterly sampling and analysis indicate that sulfur concentrations are well below the applicable standard with low variability, the sampling frequency can be reduced to a semiannual basis.
3. If any analyses indicate noncompliance with the applicable sulfur limit of 0.8 weight percent in 40 C.F.R. Section 60.333(b), samples must be collected and analyzed on a weekly basis while the custom fuel monitoring schedule is re-examined.
4. If there is a substantial change in fuel quality, samples must be collected and analyzed on a weekly basis while the custom fuel monitoring schedule is re-examined.

The schedule you have proposed is consistent with, if not identical to, EPA's August 1987 custom fuel monitoring policy. The custom fuel monitoring schedule that you have proposed is approved.

Request 3: Waiver from Multiple Load Testing

Under the provisions of 40 C.F.R. Section 60.335(c)(2), owners and operators of combustion turbines subject to Subpart GG must conduct NO<sub>x</sub> performance testing at four different loads across the unit operating range. One reason for conducting a multiple load test on a combustion turbine is to determine the water injection rate needed to maintain NO<sub>x</sub> compliance across the unit's normal operating range. Since it is difficult to predict which operating load will represent "worst case" conditions for a combustion turbine, conducting a multiple load test is often necessary in order to provide an adequate level of compliance assurance even for turbines that do not use water injection for NO<sub>x</sub> control. For combustion turbines equipped with NO<sub>x</sub> CEMS, however, the monitors will provide credible evidence regarding the unit's compliance status on a continuous basis following the initial test.

Achieving and maintaining compliance with Washington minor NSR BACT NO<sub>x</sub> limits is far more challenging than demonstrating initial compliance with the considerably less stringent Subpart GG emission limit. Depending on the type of turbine, the applicable NO<sub>x</sub> standard in Subpart GG is either 75 parts per million (ppm) or 150 ppm, and limits contained in Washington minor NSR permits being issued today are often less than 10 ppm. The combustion turbine at Goldendale Energy Center is limited to 2 ppm. Compliance with Subpart GG limits will generally be a concern only in cases where a source is in violation of the corresponding minor NSR BACT limit.

The level of compliance assurance provided in this case is sufficient to justify approval of a request that initial performance testing be allowed at full operating load. Your proposal to conduct performance testing at full load is approved.

Request 4: Reporting NO<sub>x</sub> Emissions Data in ISO Conditions

The testing provision in 40 C.F.R. Section 60.335(c)(1) requires that performance test results be corrected to International Standards Organization (ISO) standard day conditions. CEMS results must also be expressed on this same basis in order to conclusively identify periods of excess emissions. As discussed previously, NO<sub>x</sub> limits for combustion turbines subject to Washington minor NSR BACT are considerably more stringent than those in Subpart GG. Typically these minor NSR BACT limits are not expressed on an ISO-corrected basis.

Again, the level of compliance assurance provided in this case is sufficient to justify waiving requirement to report NO<sub>x</sub> performance test results on an ISO-corrected basis. The requirement to report NO<sub>x</sub> performance test results on an ISO-corrected basis is waived. Goldendale Energy Center, however, is expected to keep records of the data (ambient temperature, ambient humidity, and combustor inlet pressure) needed to make the correction.

Please direct your questions regarding this determination to Dan Meyer of my staff at 206.553.4150.

Sincerely,

*Madonna Nawoy Acting*  
Jeff KenKnight, Manager  
Federal and Delegated Air Programs Unit

cc: ✓ Lynnette Haller, Ecology  
Eric Hansen, MFG

Figure 5. Subpart GG alternate testing and approval methods.

and is therefore subject to this standard. Figure 5, displays GEC's approval to perform alternate testing and approval methods.

Note: Subpart GG was revised on July 8, 2004. However, the revision is not currently in effect within Ecology's jurisdiction, as WAC 173-400-115(1), adopts by reference Subpart GG as it was in effect on July 1, 2004.

## 9.0 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

GEC is NOT subject to *Title 40 Code of Federal Regulations (CFR) Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters*, or; *Title 40 CFR Part 63 Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines*.

9.1 National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters. [Title 40 Code of Federal Regulations Part 63 Subpart DDDDD] The boiler NESHAP applies to industrial, commercial, or institutional boilers or process heaters, located at, or are part of, a major source of hazardous air pollutants. GEC is not a major source of hazardous air pollutants.

9.2 National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. [Title 40 Code of Federal Regulations Part 63 Subpart YYYY] The combustion turbine NESHAP establishes national emission limitations and operating limitations for hazardous air pollutants emissions from stationary combustion turbines located at major sources of hazardous air pollutants emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations. The turbine NESHAP applies to stationary combustion turbines located at a major source of hazardous air pollutants emissions. GEC is not a major source of hazardous air pollutants.

#### 10.0 COMPLIANCE ASSURANCE MONITORING (CAM).

On October 22, 1997, EPA promulgated the Compliance Assurance Monitoring rule (Title 40 Code of Federal Regulations Part 64). This Rule requires specialized pollutant-specific monitoring for those emission units which meet the following criteria:

1. The unit is located at a Title V Air Operating Permit source
2. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof), other than an emission limitation or standard that is exempt.
3. The unit uses a control device to achieve compliance with any such emission limitation or standard; and
4. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as an Air Operating Permit source.

The combustion turbine is the only emission unit at GEC that meets all four of the listed criteria for CAM applicability. NO<sub>x</sub> and CO are subject to emission limitations, are controlled by control devices, and have potential pre-control device emissions greater than 100 tons per year. However, 40 CFR 64.2(b)(1)(vi), specifies that CAM requirements are not applicable to emission limitation or standard for which an AOP specifies a continuous compliance determination method (ex. CEMS). The AOP specifies that both NO<sub>x</sub> and CO be monitored using a CEMS. Therefore, CAM does not apply at GEC.

#### 11.0 INSIGNIFICANT EMISSION UNITS AND ACTIVITIES

Emissions from an oil/water separator, fuel oil (#2 diesel) piping and natural gas piping are insignificant on the basis that these activities generate only fugitive emissions. [WAC 173-401-530(1)(d), 9/16/02] *Note: WAC 173-400-030(38), defines fugitive emissions as, "emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening."*

The cooling tower, the demin water storage tank, the service/fire water tank, and waste oil drums are categorically exempt insignificant emission units. [WAC 173-401-532(4), (42), (121), 9/16/02] Finally, 9,000 gallon 19.5 percent aqueous ammonia storage tank is insignificant on the basis of size. [WAC 173-401-533(2)(s), 9/16/02]

#### 12.0 GAPFILLING

Section 5 of the air operating permit identifies requirements that are applicable to existing emission units at the source. The air operating permit must contain emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance. Where the applicable requirement does not require periodic testing or monitoring, periodic monitoring sufficient to yield reliable data has been identified and included in the permit. This action is termed gapfilling. The last column of the tables in section 5, contain the monitoring, recordkeeping, and reporting to be performed by the permittee (MRR). This column identifies the periodic action that must be taken to demonstrate compliance with the applicable requirement. It should be noted that in addition to the MRR a source must consider all other credible evidence when certifying to their compliance status.

For some applicable requirements no action is warranted and instead the permittee will annually certify their compliance status. These requirements are identified with, "no additional monitoring required," stated in the MRR column.

Many applicable requirements specified periodic MRR while gapfilling was used for the remainder. The source of the MRR is identified in brackets when it does not come specifically from the identified applicable requirement(s). Those that reference WAC 173-401-615(1) were gapfilled. Below is a brief explanation of the basis for each instance of gapfilling.

Table 2. Identification and basis of "gapfilled" items.

Applicable Requirement(s)	Gapfilling basis
5.1.22, 5.3.1, 5.3.2, 5.3.3, 5.3.7, 5.4a.1, 5.4a.2, 5.4a.3, 5.4a.4, 5.4a.5, 5.4b.1, 5.4b.2, 5.4b.3, 5.4b.4, 5.4b.5	MRR required for other similar applicable requirement(s) should sufficiently demonstrate compliance with the specified applicable requirement.
5.1.9, 5.1.11	This source has not had a history of violating these "nuisance" requirements. MRR required for other similar applicable requirement(s) should sufficiently demonstrate compliance with the specified applicable requirement.
5.1.2	Simple records, generally already kept, will be helpful in proving such operations.
5.1.4, 5.1.5, 5.1.6	This source has not had a history of visible emissions and is not expected to have problems complying with established visible emission standards. Monthly MRR is determined to be appropriate. Additionally, action is required when visible emissions are observed at times other than the monthly survey.
5.1.21	Development and implementation of these documents fulfill the applicable requirement. Periodic review/inspections will aid in assuring that the documents contents are being followed.

### 13.0 STREAMLINING

Streamlining is where one or more applicable requirement is recognized as being less stringent than another applicable requirement. Upon a satisfactory showing that one applicable requirement is more stringent, it may formally subsume the less stringent applicable requirement(s). GEC's AOP does not include any streamlining.

### 14.0 COMPLIANCE CERTIFICATION

By virtue of the Air Operating Permit application and the issuance of this permit, the reporting frequency for compliance certification for this source shall be annual.

### 15.0 ENFORCEABILITY

Unless specifically designated otherwise, all terms and conditions of the Air Operating Permit, including any provisions designed to limit the source's potential to emit, are enforceable by EPA, and citizens, under the Federal Clean Air Act. Those terms and conditions which are designated as state-only enforceable, by (S), are enforceable only by Ecology. It should be noted that state-only terms and conditions will become federally enforceable upon approval of the requirement in the State Implementation Plan. However, the enforceability of the terms and conditions of this Air Operating Permit are not expected to change during the Permit term. All terms and conditions of the Air Operating Permit are enforceable by Ecology.

Following is an example of how to identify a state-only enforceable condition. At the end of Condition 2.7.2, the following notation occurred: "[WAC 173-400-107(3), 8/20/93, 1/10/05 (S)]". If a version of the regulation is cited with no reference to enforceability, it is federally enforceable. Thus, this notation means that the authority for this permit condition is contained in the 8/20/93 version of WAC 173-400-107 (this is the version of WAC 173-400-107

that is in the SIP and is federally enforceable) and in the 1/10/05 version of WAC 173-400-107. The (S) after 1/10/05 means that the 1/10/05 version of WAC 173-400-107 is State-only enforceable.

#### 16.0 OPERATIONAL FLEXIBILITY

The permittee did not request or specify any alternative operating scenarios. However, the combined cycle unit has two sets of emission limits; one set each of emission units when operating at base-load and at peak-load. Operation at base-load and peak-load have been identified as alternate operating scenarios. The applicable requirements in Table 5.4a apply when the combined cycle unit is operating at base-load (i.e., duct burner(s) NOT in operation). The applicable requirements in Table 5.4b apply when the combined cycle unit is operating at peak-load (i.e., duct burner(s) in operation).

Additionally, in the event that an emission unit is not operated during a period equal to or greater than the monitoring period designated, no monitoring is required. (ex. A monthly visible emission survey is not required if the emission unit is not operated during the month that the survey covers. A monthly visible emission survey is required if the emission unit is operated for any portion of the month that the survey covers.) Recordkeeping and reporting must note the reason why, and length of time, the emission unit was not operated.